

A SURVEY OF DYSPHONIC CASELOAD CHARACTERISTICS AND  
CLINICIAN CHARACTERISTICS IN THE PUBLIC SCHOOLS OF KANSAS

by

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## A Survey of Dysphonic Caseload Characteristics and Clinician Characteristics in the Public Schools of Kansas

The literature on the incidence of voice disorders has revealed the presence of considerable variation in incidence. Early estimates, such as the White House Conference in 1952 (ASHA Committee on White House Conference, 1952), reported the incidence among school children to be two-tenths of one percent. Johnson et al. (1956) estimated that the incidence of school children with voice deviations was probably from one to two percent. Wilson (1972) reported that the estimated incidence of children with voice problems varied from 0.1% to 2%, indicating one to twenty children per 1,000 with voice problems.

The estimates of voice disorders and surveyed incidence differ, and the surveyed incidence also varies among authors. In contrast to estimated incidence, actual survey results indicate more children with voice disorders. Results of voice surveys of children show approximately 6% to 23% with voice problems. Pont (1965) identified 9.1% of 639 kindergarten through eighth grade children with hoarse voices. She reported that the incidence was higher in the primary grades and that more males than females exhibited the voice problem. James and Cooper (1966) found 6.2% of 718 third grade children had voice problems, with approximately half of these children with

combined voice and articulation problems. Baynes (1966) found 7.1% of 1,012 first, third, and sixth grade children demonstrated chronic hoarseness. He reported that more males than females exhibited the voice problem, the highest incidence being found among the first graders. Senturia and Wilson (1968) reported that 6% of 32,500 St. Louis school children had voice problems. They observed that the incidence was higher in the primary grades, and more males than females demonstrated voice deviations. Recently, Silverman and Zimmer (1975) reported 23.4% of 162 kindergarten through eighth grade children at a Hebrew day school exhibited chronic hoarseness. Their results indicated a higher incidence of chronic hoarseness in the primary grades, with more males than females exhibiting the disorder.

Frick's (1960) study demonstrates how many children are receiving voice therapy compared to actual incidence. Frick (1960) found that 50 clinicians in Pennsylvania reported 2.01% of the children in their caseloads presenting voice disorders. Black (1964) reported that in the public schools of Illinois, children with voice problems represented 4% of the clinician's workload. Voice problems represented 2.3% of the average total caseload of over 1,400 public school clinicians surveyed in a nationwide sample (Bingham et al., 1961). Shearer (1972) reported 2% to 5% constituted typical voice caseloads of clinicians in Illinois. After a diagnostic clinic was established, Shearer (1972) stated that active voice cases in the clinician's caseload increased from 5% to 15%.

The major purpose of this investigation was to determine the reported incidence of dysphonia, the number of dysphonic children in active therapy caseloads, and the grade and sex distribution of the preceeding among school age children in the Kansas public schools. An additional purpose was to determine the characteristics of the clinicians utilized in this study. Future statistical analysis will determine if these data varied as a function of the reporting clinician's academic preparation, amount of professional experience, and self-perceived competence.

#### Method

In April 1977, a two part questionnaire was sent to the 290 full-time speech and language clinicians in the Kansas public schools. Part One of the questionnaire was designed to obtain information concerning the total active therapy caseload and dysphonic caseload of speech and language clinicians during the 1976-1977 school year. Part Two was designed to gather information about each clinician's academic training, their self-perceived competence in the area of dysphonia, and the extent of their general professional experience (see Appendix A). Accompanying each questionnaire was an operational definition of dysphonia (see Appendix B). The questionnaires were to be returned within four weeks.

Only one complete mailing was made to the Kansas public school speech and language clinicians. A list of each Kansas

public school speech and language clinician was obtained from Melvin Bruntzell (1977). The questionnaire contained no identifying marks to assure confidentiality of response. Therefore, nonrespondents were not contacted.

A total of 150 (51.7%) questionnaires were returned. Of these, 133 (45.9%) were suitable for data processing.

The results of the questionnaire describe the dysphonic caseloads of the speech and language clinicians in the Kansas public schools. In addition, several aspects of the clinician's academic preparation and professional experience are presented.

## Results

### Caseload Characteristics

Total active therapy caseload. Of the 133 fully completed questionnaires, a total of 8,283 children were reported to be in active speech therapy. Therefore, the mean active therapy caseload was 62.28 ( $SD = 22.87$ ). The active therapy caseloads ranged from a low of 7 to a high of 122 children, with more males (59.00%) than females (41.00%) engaged in the speech therapy program.

Distribution of children identified as dysphonic by sex and grade. Seven hundred and forty children were identified as dysphonic by the 133 responding clinicians. Therefore, each clinician identified a mean of 5.56 ( $SD = 4.9$ ) children. Of the 740 children, 71.76% of them were males and 28.24% were females. More children in the early primary grades



(kindergarten through the third grade) than in the later grades were identified as dysphonic. In fact, 405 (54.73%) of the 740 children identified as dysphonic were in the early primary grades (Kindergarten through the third grade). From the fourth through the twelfth grade, the incidence declined substantially, although a number of children (24.56%) were identified as dysphonic in the ungraded special education classes (see Table 1).

Incidence of voice disorders in the school-aged population.

According to information obtained from Melvin Bruntzell (1977), the typical speech and language pathologist in the Kansas public schools is responsible for a total of 1,636.89 children. As stated previously, the 133 responding clinicians each identified a mean of 5.56 children as being dysphonic. Therefore, the identified incidence of voice disorders in the Kansas public schools is .33%.

Distribution of children in active therapy for dysphonia by sex and grade. Two hundred and fifty two children were enrolled in active speech and language therapy for dysphonia. Therefore, of the 8,283 children enrolled in the speech therapy program, 3.04% were engaged in active therapy for dysphonia. Of the 252 children, 71.43% were males and 28.57% were females. The distribution by grade is similar to the population identified as dysphonic; the distribution was higher in the early primary grades. In fact, 125 (49.6%) of the 252 children in active speech therapy for dysphonia were enrolled in kindergarten through the third grade (see Table 2).

Table 1

Distribution of children identified  
as dysphonic by sex and grade

Sex	Mean	Standard Deviation	Total Number	Percent
Males	3.99	4.26	531	71.76
Females	1.57	2.50	209	28.24
Total	5.56	4.9	740	100.00
<hr/>				
Grade	Mean	Standard Deviation	Total Number	Percent
kinder- garten	.59	1.23	79	10.68
1 -- 3	2.45	3.13	326	44.05
4 -- 6	.91	1.47	121	16.35
7 -- 9	.20	.96	27	3.65
10 - 12	.05	.21	6	.81
Special Education	1.37	3.43	181	24.56

Table 2

Distribution of children in active speech therapy  
for dysphonia by sex and grade

Sex	Mean	Standard Deviation	Total Number	Percent
Males	1.35	1.79	180	71.43
Females	.54	1.08	72	28.57
Total	1.89	2.09	252	100.00
-----				
Grade	Mean	Standard Deviation	Total Number	Percent
kinder- garten	.20	.65	26	10.32
1 -- 3	.74	1.21	99	39.28
4 -- 6	.44	.94	59	23.41
7 -- 9	.05	.22	7	2.78
10 - 12	.05	.31	7	2.78
Special Education	.40	1.22	54	21.43

Mean number of children monitored for candidacy for future voice therapy. Three hundred and three children were being monitored as potential candidates for future voice therapy. Each responding clinician monitored a mean of 2.28 (SD = 3.34) children.

#### Clinician Characteristics

Highest academic degree. The distribution of the highest academic degree reported by the 133 responding clinicians is listed in Table 3. As can be seen in the table, the Master's Degree was held by 88.73% of the respondents. The mean year, in terms of the highest degree attained was 1972; with a mode of 1975. The information gathered indicated that 60.90% of the degrees were awarded between 1973 and 1976.

Years of experience. The distribution of years of experience as a speech and language clinician ranged from between one and thirty-five years. The mean number of years experience was 5.27 (SD = 4.83). The mode was two years of experience, and 59.41% of the clinicians responding had fewer than five years experience.

Academic preparation. Table 4 describes the academic preparation of the 133 respondents. As shown in the table, the majority of reporting clinicians have had either a portion of a course related to voice disorders or one complete course in the area of dysphonia. The typical academic profile of the speech and language clinician reporting included both a portion of a course relating to voice disorders in addition to a complete course in dysphonia.

Table 3  
Distribution of the highest academic degree

Degree	Number of Speech Clinicians	Percent
Bachelor's	5	3.76
Bachelor's + 15 hours	10	7.52
Master's	94	70.68
Master's + 15 hours	24	18.05

Table 4  
Academic preparation

Coursework	Mean Percentile	Standard Deviation
Portion of a course	60.90	49.00
One course	68.42	46.70
Two courses	14.29	35.12
Three courses	3.76	19.09
Short course	10.53	30.81
Workshop or miniseminar	33.08	47.23
Convention session	46.62	50.07

Ratings of competence. The surveyed clinicians were asked to rate their self perceived competence in the area of identification of dysphonic children and clinical management (diagnosis and treatment) of dysphonic children. A rating of one indicated a self perception of complete incompetence, while a rating of seven indicated a self perception of complete competence. The frequency distribution of scale values of the ratings are shown in Table 5. The self perceived competence in identifying dysphonic children show a mean of 5.18 (SD = 1.08) and a mode of 6. The self perceived competence ratings in clinical management reveal a mean of 4.35 (SD = 1.23) and a mode of 4.

### Discussion

It must be mentioned at the onset of this discussion that a 100% return rate was not achieved on the questionnaires sent to the Kansas public school clinicians. Since a random sampling technique was not employed, the interpretation of these results and conclusions drawn only apply to those clinicians responding to the questionnaire. It would be presumptuous to state that the results of this survey apply to the total population of Kansas public school clinicians, as nothing is known about the caseloads or characteristics of the clinicians who chose not to respond.

### Caseload Data

Results of this study suggest that the surveyed incidence of voice disorders in the Kansas public schools (.33%) is

Table 5

Frequency distribution of scale values for ratings  
of perceived competence in identification of dysphonia  
and diagnosis and treatment of dysphonia

completely incompetent							completely competent	
1	2	3	4	5	6	7		
<u>Identification</u>								
0	0	6	26	40	52	8		
Mean 5.188 (SD = 1.04)								
<u>Diagnosis and Treatment</u>								
0	7	22	46	31	23	3		
Mean 4.35 (SD = 1.23)								

considerably lower than the incidence reported by researchers outside the state of Kansas. The distribution by sex and grade of the children in active speech therapy for dysphonia, as well as those identified as dysphonic, reveals that more males than females exhibit the disorder and that dysphonia most frequently occurs in the early primary grades (kindergarten through the third grade).

The finding that approximately .33% of the Kansas public school children were identified as dysphonic is considerably lower than the findings of Baynes (1966), James and Cooper (1966), Pont (1965), and Senturia and Wilson (1968). The discrepancy is even greater when compared to the Silverman and Zimmer (1975) incidence data. These researchers reported incidence figures ranging from 6% to 23.4%.

The distribution by grade and sex in this population of children is similar to that reported by Baynes (1966), Pont (1965), Senturia and Wilson (1968), and Silverman and Zimmer (1975). In each study the incidence was higher in the primary grades, with considerably more males than females exhibiting voice disorders. These findings suggest that voice disorders are more prevalent in younger children, who may in time, outgrow the problem. An additional explanation is that older school-aged children may not be monitored and screened with the same enthusiasm as younger children are. The data could also be interpreted to suggest that the children in the primary grades may exhibit more vocal misuses and



upper respiratory infections, which may be contributing factors for the development of dysphonia (Silverman and Zimmer , 1975). The data further indicates that voice disorders are similar to other communication problems, such as stuttering, in that a higher incidence is common among males (Van Riper, 1963).

The percentage of children in active speech therapy for dysphonia (3.04%) as reported by the clinicians participating in the present study is within the 2% to 5% range reported by Shearer (1972) as the typical caseload of Illinois clinicians before diagnostic clinics were established.

Data are unavailable to provide information on the number of dysphonic children referred by classroom teachers. Perhaps the incidence of voice disorders in the Kansas public schools is low due to few teacher referrals. Diehl and Sinnott (1959) compared teacher referrals and the results of a school speech testing program of children in the second grade. They found that teachers were able to identify voice disorders with only 36.9% accuracy. The teachers' accuracy increased to 70%, however, when the children exhibited both an articulation and voice disorder. James and Cooper (1966) also found teacher referrals for voice disorders low, but referrals for dysphonia increased when it was accompanied by misarticulations. Teachers who have not had special training in identifying voice disorders have been shown to be quite poor in identifying children with dysphonia (Wilson, 1972). The present findings serve to re-emphasize the need for an

orientation program for teachers in any system where it is impossible for the speech and language clinician to completely screen all of the children for the presence of voice disorders.

#### Clinician Data

Speech pathology personnel in the Kansas public schools are recently trained and are relatively inexperienced, as indicated by the mean number of years of experience (5.27). Most of the speech and language clinicians hold a M.A. degree, as would be expected for ASHA certification requirements.

Academic/clinical preparation in the area of dysphonia is possibly limited since the majority of the Kansas public school speech pathology personnel participating in the present study have had only a portion of a course dealing with dysphonia in addition to a complete course in voice disorders. Perhaps this potential deficiency in instruction might be related to the low incidence figure. This information suggests the need for an analysis to determine the relationship between the extensiveness of clinician training and the incidence of voice disorders.

Pont (1965) stated that dysphonia is too often ignored by parents, teachers, and speech clinicians because these cases make up such a small percentage of the speech problems. However, according to clinical literature (Wilson, 1972), dysphonia that is ignored may lead to a vocal pathology of a more serious degree.

The present study has pointed out the possible low incidence of voice deviations in the Kansas public schools. It would be presumptuous to state that the results apply to the total population of Kansas public school speech and language clinicians, since nothing is known about the non-respondents. The findings of this and other recent studies (Senturia and Wilson, 1968; Silverman and Zimmer, 1975) indicate that children in the early primary grades, and more males than females, exhibit voice disorders. Furthermore, many children demonstrating voice disorders may be expected to have a vocal pathology (Silverman and Zimmer, 1975). It is important, therefore, that the speech pathology personnel working in the Kansas public schools identify these children and make appropriate referrals.

The characteristics of the clinicians participating in this study reveal that most hold a M.A. degree, are recently trained, and relatively inexperienced. Their self perceived competence is average in the area of clinical management of dysphonia, and slightly higher in identifying children with voice disorders.

Whether the low incidence figure for voice disorders in the Kansas public schools is due to the amount of academic/clinical instruction utilized by our clinicians is not a question that can be answered at this time. Future statistical analysis will aid in determining if the present data varied as a function of the reporting clinicians' amount of professional

experience, academic preparation, and self perceived competence. It is important that these questions be obtained to insure that the children in the Kansas public schools receive the maximum amount of professional assistance for dysphonia.

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## PART I

## Appendix A

1. What is your total active therapy caseload for the present school year (1976-1977)?  
Include all students who are currently receiving therapy in the public schools as well as those who are actively enrolled but have been subsequently dismissed.  
  
\_\_\_\_\_
2. Of the total active therapy caseload reported in number 1, how many are males? \_\_\_\_\_
- 3a. How many children have you identified as having dysphonia during the present school year? (See definition)  
\_\_\_\_\_ number of males                      \_\_\_\_\_ number of females
- 3b. How many children identified with dysphonia are in each of the following grades?  
Ungraded \_\_\_\_\_  
Special Education \_\_\_\_\_ K \_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5 \_\_\_\_\_  
6 \_\_\_\_\_ 7 \_\_\_\_\_ 8 \_\_\_\_\_ 9 \_\_\_\_\_ 10 \_\_\_\_\_ 11 \_\_\_\_\_ 12 \_\_\_\_\_
- 4a. Of your total active therapy caseload, how many children are receiving active therapy for dysphonia?  
\_\_\_\_\_ number of males                      \_\_\_\_\_ number of females
- 4b. How many children in active therapy for dysphonia are in each of the following grades?  
Ungraded \_\_\_\_\_  
Special Education \_\_\_\_\_ K \_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5 \_\_\_\_\_  
6 \_\_\_\_\_ 7 \_\_\_\_\_ 8 \_\_\_\_\_ 9 \_\_\_\_\_ 10 \_\_\_\_\_ 11 \_\_\_\_\_ 12 \_\_\_\_\_
5. Of the children identified with dysphonia (#3a), how many are not in active therapy for dysphonia but are being periodically monitored as potential candidates for future voice therapy? \_\_\_\_\_

## PART II

- 6a. What is your highest academic degree (Mark the appropriate space with an 'X')  
\_\_\_\_\_ Bachelor's degree                      \_\_\_\_\_ Bachelor's + 15 hours  
\_\_\_\_\_ Master's degree                      \_\_\_\_\_ Master's + 15 hours
- 6b. In what year did you receive your highest degree? \_\_\_\_\_
7. How many years have you been a practicing speech and language clinician?  
\_\_\_\_\_ number of years
8. Please indicate below the nature of your academic training in the area of voice disorders (characteristics, identification, clinical management). Example: If you have had a complete course specifically dealing with voice disorders and have also had a portion of a course devoted to voice disorders, then you would place an 'X' before the categories "one course" and "portion of a course".  
\_\_\_\_\_ portion of course                      \_\_\_\_\_ three complete courses                      \_\_\_\_\_ convention session  
\_\_\_\_\_ one complete course                      \_\_\_\_\_ a short course  
\_\_\_\_\_ two complete courses                      \_\_\_\_\_ a workshop or miniseminar
9. Please rate yourself on the following parameters regarding your perceived competence with voice disorders. (Please circle one of the numbers)  
IDENTIFICATION OF DYSPHONIC CHILDREN  
1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7  
CLINICAL MANAGEMENT OF DYSPHONIC CHILDREN (includes diagnosis and treatment)  
1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7  
  
Key: 1 = completely incompetent  
7 = completely competent

## Appendix B

Dear Clinician:

I am a graduate student at Kansas State University completing my Master's Degree in Speech Pathology.

I would appreciate your help in the completion of the attached questionnaire so that I may complete my thesis on the incidence of voice disorders in the Kansas Public Schools.

Each question on the survey will be compared to previous studies. Therefore, it is important that each question be answered.

I appreciate your help and would like the questionnaires returned in the self addressed stamped envelope by April 29, 1977. Thank you for your cooperation.

Sincerely,

Linda Dickson

Please use the following definition for dysphonia when completing the questionnaire.

Dysphonia is a broad term for the different organic and functional voice disorders. Dysphonia can be so mild that it is frequently undetected or so severe that a complete loss of voice is apparent. There are many forms of dysphonia: voices lacking adequate intensity (voices that are too loud or too soft); voices lacking clearness of tone ( breathiness, harshness, or hoarseness); voices lacking appropriate pitch levels for the age and sex of the person; and voices with exaggerated pitch changes or constantly recurring inflection patterns.

Note: Please include all students who have dysphonia in combination with another communicative disorder. (e.g.: hoarseness and misarticulations)



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AN ABSTRACT OF A MASTER'S THESIS

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Department of Speech

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## Abstract

A two part questionnaire was sent to each Kansas public school speech and language clinician. Part One of the questionnaire was designed to obtain information on the clinician's caseload. Of the 133 responding clinicians, the results indicate the following: 1) a low incidence (.33%) of voice deviations in the surveyed Kansas public schools; 2) 252 (3.04%) of the 8,283 children in the speech therapy program were in active speech therapy for dysphonia; 3) the incidence was higher in the early primary grades (kindergarten through the third grade); and 4) more males than females exhibited voice disorders. The findings of this study compared to recent literature suggest that Kansas public school speech and language clinicians are not identifying as many dysphonic children as would be expected. The second part of the questionnaire was designed to obtain information on clinician characteristics. The results indicate that, of the 133 participating clinicians, most are recently trained and hold a M.A. degree.